

REMARKS

Favorable action on the merits is respectfully requested in view of the foregoing amendments and the following remarks.

I. CLAIM STATUS & AMENDMENTS

Claims 1-36 were pending in this application when last examined.

Claims 1-22 were examined on the merits and stand rejected.

Claims 23-36 were withdrawn as non-elected subject matter.

Claims 1 and 20 are amended to clarify that both of the two bases, which are located in the second and third positions, respectively, from 3' terminal of a first single-stranded nucleic acid, are uncomplementary to the target nucleic acid. Support can be found in the disclosure, for example, at page 31, lines 7-10. Minor grammatical revisions were also made to claims 1 and 20 to correct the punctuation.

No new matter has been added.

Applicants thank Examiner Salmon for the telephone discussion on November 17, 2006, during which the request for verified English translations of the foreign priority documents and the new matter rejection were discussed.

II. FOREIGN PRIORITY

In item 4 on pages 2-3 of the Action, the foreign priority claim was again denied on the basis that verified "translations" of the certified priority documents have not been received.

During the telephone discussion with the Examiner, Applicants were informed that the request was being made in order to make of record the absence of such translations in the PTO file.

However, it is respectfully submitted that this is an improper reason to deny a foreign priority claim.

Generally, verified "translations" of the certified priority documents are not required to establish foreign priority except (1) when the application is involved in an interference; (2) when

necessary to overcome an intervening prior art reference relied upon by the Examiner to reject the claims; or (3) when specifically required by the Examiner for another purpose. See 37 C.F.R. § 1.55(a)(4) and M.P.E.P. § 201.14(a) on page 200-85.

As noted in the last response, there are no intervening prior art references. Thus, the requested translations are not necessary to overcome any prior art rejection of record.

At the top of page 3, it was indicated that Applicants should submit the verified translations, if they desire to obtain the benefit of foreign priority prior to declaration of an interference. In view of the telephone discussion with the Examiner, kindly clarify if this is in fact the reason for requesting the verified translations of the certified priority documents. If not, kindly clarify the reason for this request.

Given the time and expense associated with preparing such translations, it is respectfully requested that the Examiner's request be held in abeyance until Applicants can obtain and provide the translations, if deemed necessary.

If, as noted during the telephone discussion, the Examiner's sole purpose was to make of record that there no translations in the PTO file, then please reconsider and withdraw the request and properly acknowledge the claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f), as well as receipt of the certified copies of the foreign priority document.

III. INFORMATION DISCLOSURE STATEMENT

Applicants agree with the statement on page 3 of the Office Action, which reads "a translation of reference AK has been provided with the office action mailed 2/15/2006, therefore, the reference has now been considered since there is a translation of record." Accordingly, JP 2002-101899 (reference AK) has been officially considered and made of record, even though the reference was crossed-out in the Examiner-initialed copy of Form PTO 1449 for the IDS of December 5, 2003, which was attached to the most recent Action. Nonetheless, enclosed herewith is an English translated Abstract of JP 2002-101899 (reference AK), if needed by the Examiner.

In the last sentence in the fourth paragraph on page 3 of the Action, it was indicated that reference AH (JP 2001-57892) was not considered, because no translation has been provided. However, this position contradicts the Examiner-initialed copy of the Form PTO 1449 attached to the Action, wherein reference AH was initialed by the Examiner and thereby officially considered.

Kindly clarify the status of reference AH (JP 2001-57892).

IV. OBJECTION TO THE AMENDMENT

In item 11 on page 5 of the Office Action, the amendment filed June 29, 2006 was objected to under 35 U.S.C. § 132(a) on the basis that it introduces new matter into the disclosure. Specifically, it was indicated that the pages 1-21 describing 5 experiments and pages 1-2 with Figures 1-3, which were submitted in the Rule 132 Declaration with the response, constitute new matter.

This objection is respectfully traversed.

During the telephone discussion with the Examiner, Applicants were informed that this objection was made on the basis that the Rule 132 Declaration appears as an appendix to the specification in the PTO file. The Examiner indicated that this appears to be a PTO error.

Please note that the Rule 132 Declaration is not an appendix to the specification. Instead, as noted during the telephone discussion, the Rule 132 Declaration was submitted to rebut the rejections of record, and not as an amendment to the specification.

Therefore, the above-noted new matter objection is untenable and should be withdrawn.

V. PRIOR ART REJECTIONS

In item 12 on pages 7-9 of the Office Action, claims 1-9 and 20-21 were newly rejected under 35 U.S.C. § 102(b) as anticipated by Zhou (Nucleic Acids Research, Vol. 29, p. e93, (2001)).

In item 14 on pages 9-11, claims 10-13 were newly rejected under 35 U.S.C. § 103(a) as obvious over Zhou in view of Scopes (Analytical Biochemistry, Vol. 49, pp. 88, (1972)) and Benkoel (The Journal of Histochemistry and Cytochemistry, Vol. 24, pp. 1194, (1976)).

In item 1 on pages 11-13, claims 14-19 were newly rejected under 35 U.S.C. § 103(a) as obvious over Zhou in view of Bille (Phys. Plantarum, Vol. 84, pp. 250-254, (1992)).

In item 15 on pages 13-14, claim 22 was newly rejected under 35 U.S.C. § 103(a) as obvious over Zhou in view of Newton (US 5,525,494).

These rejections are respectfully traversed as applied to the amended claims for essentially the same reasons set forth in the previous response and for the following reasons.

Since Zhou is the primary reference in all of these prior art rejections, these rejections will be addressed herein together.

Claims 1 and 20 have been amended to exclude the primer of Zhou, and to clearly recite that both of the two bases in the “uncomplementary region” (claim 1) and “second uncomplementary region” (claim 20), which are located in the second and third positions, respectively, from the 3' terminal of the first single-stranded nucleic acid, are uncomplementary to one strand of a target double-stranded nucleic acid.

Zhou fails to disclose this feature of the amended claims. Instead, Zhou relates to a SNP detecting method. Zhou discloses, in Fig. 2, that a single base at a third position from the 3'-terminal of the primer is uncomplementary to a target nucleic acid. Zhou never discloses or suggest two bases in the “uncomplementary region”, which are uncomplementary to one strand of a target double-stranded nucleic acid.

Accordingly Zhou fails to teach or suggest each and every element of the claimed invention. Consequently, Zhou fails to anticipate or render obvious the claimed invention.

Furthermore, as argued in the last response, the present invention as recited in amended claim 1 is characterized in that both the second base from the 3'-terminal of the primer and the third based from the 3'-terminal of the primer are uncomplementary to a target nucleic acid.

The secondary references of Scopes, Benkoel, Bille and Newton fail to remedy the deficiency in Zhou, because they too fail to disclose or suggest this feature of the present

invention as recited in amended claim 1. None of references mention anything about bases in the second and third positions from the 3' terminal end that are uncomplementary to the target nucleic acid.

Scopes was relied upon as teaching a method of detecting the conversion of organic phosphate into inorganic phosphate. Scopes mentions nothing about bases in the second and third positions from the 3' terminal end that are uncomplementary to the target nucleic acid.

Benkoel relates to teaching the use of ferricyanide as an electron acceptor. Newton relates generally to labeling primers. Bille relates to a study of sphingosine as an inhibitor of protein kinase C. None of these references mention anything about bases in the second and third positions from the 3' terminal end that are uncomplementary to the target nucleic acid.

Again, there is no teaching or suggestion in the cited references for having two bases in the "uncomplementary region" (claim 1) and "second uncomplementary region" (claim 20) that are located in the second and third positions from the 3' terminal of the first single-stranded nucleic acid as in the present invention, which are both uncomplementary to a target nucleic acid.

On pages 5-6 of the Action, it was argued that the Rule 132 Declaration attached to the last response fails to provide unexpected results, because the current claims are not commensurate in scope with the method steps presented in the Declaration.

In reply, it is respectfully submitted that this Rule 132 Declaration provides unexpected results as applied to the amended claims. Thus, the present invention is believed to be patentable over the cited references in view of the unexpected and superior results achieved by the present invention. Such results are indicative of non-obviousness.

In view of the foregoing, it is respectfully submitted that the cited references, taken alone or in combination, fail to disclose or suggest each and every element of the claimed invention, and the present invention achieves superior and unexpected results over the prior art.

Therefore, the above-noted 102(b) rejection of claims 1-9 and 20-21 and the above-noted 103(a) rejections of claims 10-19 and 22 are untenable and should be withdrawn.

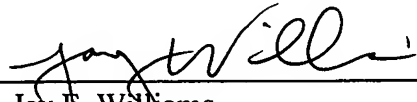
CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

Hidenobu YAKU et al.

By: 
Jay F. Williams
Registration No. 48,036
Attorney for Applicants

JFW/akl
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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ATTACHMENTS

1. English translated Abstract of JP 2002-101899 (reference AK).

PATENT ABSTRACTS OF JAPAN

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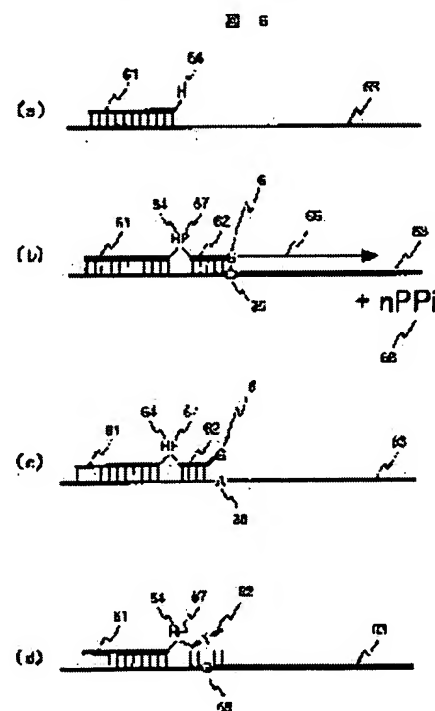
(21)Application number : 2000-300577 (71)Applicant : HITACHI LTD
 (22)Date of filing : 28.09.2000 (72)Inventor : KANBARA HIDEKI
 SHU KOKUKA
 OKANO KAZUNOBU
 KAMAHORI MASAO

(54) METHOD FOR DETECTING DNA VARIATION AND DETECTOR THEREFOR

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a method for detecting a DNA variation without using a gel electrophoresis, and to provide a detector for the method.

SOLUTION: This method for detecting DNA variation, i.e., detecting the presence or absence of a specific sequence, comprises the following steps: (1) an oligomer 6 with a short range of 5 to 8 base length capable of extending a complementary strand and an oligomer 61 with a long range hybridizable with a target DNA and incapable of extending a complementary strand are hybridized in series with the target DNA 63, (2) using four kinds of nucleic acid substrates and a polymerase, a complementary strand extension reaction 66 with a short primer as the starting point is made, and (3) pyrophosphoric acid 68 formed as a byproduct of the complementary strand extension reaction is converted to ATP followed by making a luminescent reaction using an enzyme to detect the resulting luminescence. By this method,



various items required for a DNA variation instrumentation can easily be found.

LEGAL STATUS

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[Patent number]	3638516
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